Reviewer’s report

Title: The impact of cancer on diabetes outcomes.

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Reviewer: Marco Gallo

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The authors discuss the impact of a cancer diagnosis on the outcomes of diabetes management in the population-based cohort from the Diabetes Care in General Practice (DCGP) trial. In that trial patients with newly diagnosed type 2 diabetes were previously randomized to receive either structured personal diabetes care or routine care. The present analysis is a 19-year follow-up and post hoc observational analysis of the cohort. As stated by the Authors, while many studies describe how diabetes affects the incidence and mortality of cancer, studies on the impact of cancer on diabetes-related outcomes are rare. Results demonstrate that, compared to diabetes patients without cancer, patients with both diabetes and cancer had significantly increased all-cause and diabetes-related mortality, as well as an increased incidence of any diabetes-related endpoint and MI. Yet, diabetes patients with cancer benefitted from structured personal diabetes care as well as diabetes patients without cancer, to the same degree. As well acknowledged by the Authors, the results from this post hoc analysis of a RCT should be interpreted as observational, as the presence of cancer was not accounted for in the randomization procedure. In my opinion it is a well performed analysis and its population-based approach is one of its strengths. I only have a few comments and suggestions.

Minor Essential Revisions

1. The analysis examined only survived (and re-examined) patients, therefore the results pertain only those patients who survived after cancer diagnosis. It is quite probable that people who did not survive had more severe conditions, a shorter life expectancy and (obviously) could have been treated less intensively as regards their diabetes and diabetic complications. This should be acknowledged in the limitations of the study.

2. Abstract (Results): "The intervention reduced the risk of both these endpoints in patients without cancer. However, there was no statistically significant difference in the effectiveness of the intervention among patients with and without cancer." Perhaps better: "[…]. Furthermore, there was no statistically significant difference…"

3. Page 3: "The coexistence of cancer and diabetes may hamper the management of type 2 diabetes". Personally I do not think that a cancer diagnosis may hamper the management of T2D. Rather, I think that diabetes management (goals setting, therapy, blood glucose monitoring intensity, etc.) should take into account important comorbidities (such as cancer) as well as life expectancy, having in mind that the goal of diabetes management in many of these patients is to guarantee better nutritional status and quality of life
(instead of preventing long-term diabetes complications. I think that the Authors might find of help the following references:


4. Discussion, Page 11: "[...] difficulties meeting treatment goals for HbA1c and LDL-cholesterol". Perhaps blood pressure targets should be added, too.

5. There are a few typos and errors in the text that should be corrected

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
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